

Nostalgia-Inducing Music and Perceptions of Social Support Satisfaction

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ABSTRACT

Recent empirical studies suggest that nostalgic emotions strengthen and extend a person's awareness of their own social bonds with friends, family, and loved ones. Often a reported emotion while listening to autobiographically-salient songs, nostalgia evoked by music may be able to demonstrate a similar social utility. First, a review of relevant empirical literature on nostalgia is given. Discussion covers how the definition of nostalgia changes from that of a disease to a psychological construct. In the late 20th Century, empirical studies first take place by marketing researchers and then by social psychologists. More recently, nostalgia and music have become of interest to researchers. Second, a survey and experiment were conducted to test the hypothesis that nostalgia-inducing music can increase perceptions of social support. A survey was conducted where participants identified songs that made them feel nostalgic. In addition, the ages of the participants were collected. From the information provided by the survey, the age of the participants at the date of release for the song was determined to be on average between 15 and 18 years. In a subsequent experiment, song stimuli were selected from this age range for participants 19-30 years of age. This experiment exposed a target group to nostalgia-inducing songs and then measured satisfaction with their present social support. A control group listened to songs that were not identified as nostalgic. Results indicate that participants who heard nostalgia-inducing autobiographical songs did not report higher satisfaction with social bonds than the control group. Last, implications of the study and its results are discussed at length.

Nostalgia is an experience not uncommon to a person's everyday life. It is easy to recall a beautiful sunset shared with a loved one or to be "taken back" by aromas that are reminiscent of family holiday dinners. Qualitatively, a characteristic bittersweetness—the ambivalent feeling of longing and happiness towards past memories—is viewed as the signature of a nostalgic event. Nostalgia appears to be experienced cross-culturally and across all age groups (Leboe & Ansons, 2006; Wildschut, Sedikides, Arndt, & Routledge, 2006; Wildschut, Sedikides, & Routledge, 2008; Boym, 2001).

I. LITERATURE REVIEW

HISTORICAL REVIEW

The first reported use of the term *nostalgia* was by Swiss physician Johannes Hofer in 1688. Nostalgia, stemming from the Greek *nostos* (return) and *algos* (pain), was used to describe an illness suffered by Swiss mercenaries who were separated from their homeland (McCann, 1941; Batcho 1998). Several symptoms were attributed to nostalgia. Loss of sleep and appetite, anxiety, sadness, loneliness and fever were among the most common (McCann, 1941; Havlena & Holak 1991; Batcho, 1998), although McCann claims that "nearly every symptom of nostalgia known to man has been interpreted at one time or another as nostalgia" (1941, pg. 166). Several theories emerged to explain the cause of nostalgia. Hofer proposed that "animal spirits" thickened the blood and agitated parts of the middle brain that were associated with the comforts of home (Wildschut *et al.*, 2006; Havlena & Holak, 1991). In the 18th Century, physician J. J. Scheuchzer attributed nostalgia to abrupt changes in atmospheric pressure experienced by Swiss inhabitants moving from high to low altitudes in the Alps. This altitude change caused blood to

rise to the brain. Coupled with the feelings of separation from their homes, an excess of blood triggered nostalgic symptoms (Davis, 1979). Last, as Davis (1979) points out, a common view throughout the 18th Century was that brain and eardrum damage caused by persistent and loud bells hung around the neck of cows in the Swiss countryside was responsible for nostalgia and its symptoms.

Willis McCann published a concise psychophysiologically-grounded review of the nostalgia literature describing how the definition of nostalgia departed from its associations with a disease and became associated with a depressive state (1941). Within the review, McCann uses the terms *nostalgia* and *homesickness* interchangeably suggesting that they describe the same phenomenon. Given that a myriad of symptoms were attributed to nostalgia, McCann notes the possibility that many who suffered enigmatic illnesses were misdiagnosed as having nostalgia in the 18th and 19th Centuries. Over-diagnosis popularized the term. Nostalgia was also used to explain criminal behavior in children and adults who were separated from their home. Cases of aggravated assault, arson, and murder with no clear motif were labeled as nostalgia or homesickness, provided that perpetrators were at one point dislocated from their home environment.

In order to clarify the symptomatology of nostalgia, McCann cites his own doctoral thesis. He asked 100 college students to describe feelings or symptoms that would signal homesickness to the participant. McCann hypothesizes that symptoms of “emergency emotional behavior” would be characteristic of nostalgia, as the illness itself motivates an individual to return to his or her own home. Responses in McCann’s study included: intense longing for family or friends, listlessness, depression, and feelings of uncertainty and inferiority. Based on this idea, McCann develops his own theory on nostalgia. He posits that a strong yearning to

return to home is generated by hyperactivation of the sympathetic nervous system, which is associated with goal-directed “emergency response” behaviors. Necessary factors for a nostalgic response are: the separation of a person from home, an intense desire to return home, an inhibition of the goal to return home, the frustration that arises from the inhibition of the goal, and the activation of the sympathetic nervous system to enable the emergency response behaviors. According to McCann, the only treatment for nostalgia was to take a person back to their home or to convince the person that they were going to return very soon, even when not feasible.

McCann makes note of several circumstantial factors surrounding nostalgia. First, he acknowledges the possibility that “susceptibility to nostalgia” may be a personality trait or temperament that is not predicted by race or nationality. He suggests there may be gender difference in susceptibility to nostalgia but no known evidence supported this claim. Another important factor in nostalgia is age difference. McCann considers adolescence or preadolescence the life epoch most susceptible to nostalgia as these individuals are experiencing developmental and environmental changes en route to establishing their own means for livelihood. Since adolescents are detaching themselves from reliance on their original home, this age group is highly susceptible to nostalgia.

Fred Davis (1979) suggested that nostalgia had moved from being synonymous with homesickness to becoming descriptive of a general yearning for a person’s past. He suggested that nostalgia was “depsychologized” as the popularity of the term increased, and in turn helped people to remember their identity during significant life changes. According to Davis, there are three orders of nostalgia. First-order nostalgia was a simple recognition of people seeing their past as being preferable to their present. Second-order nostalgia was an elaborate appraisal of a

person's past including specific objects, people, and events that were believed to be meaningful. Third-order nostalgia was the phenomenological sensation that arises from these appraisals, such as bittersweetness, longing, or yearning.

Davis assumed that adolescence and early adulthood were formative years that develop a sense of identity. He called this life epoch the "fertile period" and hypothesized that people would be most nostalgic for this time. Davis suggested that nostalgia only occurs for life events that have been experienced by a person. He notes that some nostalgic accounts describe times and events that are prior to the birth or general nostalgic experiences for times that are imagined or fictitious. He refers to these events, specifically the former, as an "antiquarian feeling." As Panelas (1982) points out, Davis does not describe how nostalgia may be similar to an antiquarian feeling. By sharing the same phenomenological sensation, nostalgia and antiquarian feelings might facilitate the same social and personal goals.

To summarize, nostalgia's definition as a specific illness became more generalized to a feeling of longing or yearning for one's past, often experienced as a bittersweet sensation. McCann (1941) described nostalgia as a motivational system for a person to return to their home environment. Popularization of nostalgia as a diagnosis led to the term becoming associated with homesick sentiments. As the term became more colloquial, Davis (1979) considered nostalgia a complex affect that had functional purposes, such as maintaining identity for people going through major life changes. Moving into the end of the 20th Century, nostalgia received attention from empirical researchers in marketing and psychology.

THE RUTGERS RESEARCH GROUP ON NOSTALGIA AND CONSUMERISM

In the late 1980s and throughout the 1990s, nostalgia became of interest to consumer and marketing researchers, focusing primarily on the Baby-Boomer generation. Leading investigators—based out of Rutgers University and Columbia University—including William Havlena, Susan Holak, Robert Schindler, Barbara Stern, and Morris Holbrook. By conducting empirically driven studies, the Rutgers group proposed that certain methods of advertising may induce positive affective responses which encourage consumers to conjure past associations and memories with certain marketable products (Havlena & Holak 1991). The researchers concerned themselves with two forms of nostalgia: personal and historical. Personal nostalgia is characterized by the sensation of reminiscing through one's past. Historical nostalgia is concerned with interpreting the past as being inherently better than the present (Stern, 1992; Havlena & Holak, 1991). Contrary to Davis (1979) view on “antiquarian feeling,” historical nostalgia may include experiences that a person has not lived through or has imagined (e.g. across a generational gap or through an ‘idealized’ Americana).

Initial work from the Rutgers group was conducted by Holbrook & Schindler (1991a). The authors first focus on qualitative observations of nostalgia. Suggestive of its permanence through generations, Holbrook & Schindler describe how the phenomenology of nostalgia is presented in Biblical and Homeric works up into modern-day marketing techniques. Not receiving much attention academically, the authors endeavor to study nostalgia systematically. Expanding Davis' (1979) conception of nostalgia, Holbrook & Schindler consider nostalgia to be

any attraction or liking for past events or experiences that are no longer regularly experienced in a person's everyday life.

The authors cite two studies in progress at the time: the first study hypothesizes that nostalgia-proneness depends on the age of a person. Based on the authors' earlier study on music preferences (Holbrook & Schindler, 1989), Holbrook & Schindler propose that adolescent and early-adulthood years are the formative time for future nostalgia episodes (also referred to by Davis (1979) as the "fertile period"). Holbrook & Schindler developed a 20-item Nostalgia-Index that reliably associates nostalgia-related sentiments (such as '*The good-old days are gone now*') with age range, predicting that the older the respondent, the higher the reported agreement with nostalgic sentiments. A second study that was in progress at the time of this paper proposes that the concept of nostalgia preferences from adolescent and early-adulthood years are associated with other aesthetic constructs such as film or fashion, and will presumably corroborate the authors' own 1989 study on song preferences.

Elaborating on Holbrook & Schindler (1991a), Holbrook (1993) attempted to generalize their findings to nostalgia-proneness as independent of age and more as a personality or demographic-related construct. Two studies, using the same 20-item Nostalgia Index administered in Holbrook & Schindler (1991a), were combined with a questionnaire examining movie preferences on a 1-9 scale (1 = extreme disliking, 9 = extreme liking). In the first study, the sample was comprised of respondents from the same age range while the second study employed a larger age-variable sample. In the results, the authors suggest that age was independent of nostalgia-proneness and that demographics were not strongly associated with nostalgia-proneness. In order to not reject the null hypothesis, several factors were eliminated alongside factors that were the smallest item-total correlation. The implication—for the purposes

of the authors' discipline—is that results support the idea that nostalgia may be an effective marketing tool that is not explained by age or demographics. Batcho (1998) claims that omitting the smallest item-total correlation removed the most relevant factors that explain nostalgia and, as a result, left only abstract, highly generalizeable statements. Empirically, the paper is one of the first to suggest that nostalgia-proneness may be an independent psychological construct that is unexplained by age, gender, or other demographics; but only at the cost of omitted data (both Davis, 1979; and McCann; speculated that nostalgia was dependent on individual differences).

Holak & Havlena (1992) sought to explore the content, objects, and events of nostalgia by asking participants to pen a short essay on nostalgic experiences. The responses were not entirely open-ended; the authors explicitly asked for the criteria of a person's feelings, content, objects, and other people regarding nostalgic episodes. This suggests that the authors conceptualize nostalgia as having both a phenomenological and object-based component, perhaps consistent with their own marketing agenda. Holak & Havlena collected 164 responses of nostalgic events, each with a battery of questionnaires on emotional ratings and demographics. The authors found that people—namely family and friends—were the most common content or themes of nostalgic experiences. These experiences focused on important life events such as weddings, family get-togethers, and other social events. Material possessions, most notably one's first automobile, clothes, books, photographs, and heirlooms, are frequently cited objects of nostalgia analyzed in collected responses. Music, smells, food, and non-personal photographs are classified as 'intangible' triggers of reported nostalgic experiences. Holak & Havlena note that several of the themes and objects of nostalgia center on societal gathering and interpersonal contact, often from a 'first-person' perspective.

In order to more deeply understand how nostalgia may be used for marketing purposes, Holak & Havlena (1998) sought to examine affect-based components of nostalgic experiences. Here, the authors operate under the assumption that nostalgia is comprised of several different emotions or affect that may account for the ambivalence of a nostalgic experience. Also, Holak & Havlena suggest that nostalgia may be experienced as a passing sensation or lasting mood. Sixty-two participants provided 164 written descriptions of nostalgic experiences. Two sets of independent judges rated each written description using two scales based on 1-7 Likert responses. In consideration of the contention between dimensional and categorical approaches to empirically study emotions (e.g. Russell 1980; Plutchik, 1980), one scale was used to express ratings on a dimensional model and the second scale was used to organize ratings using a categorical approach. Results indicate that affective categories of “warmth”, “joy, ” “gratitude, ” “affection, ” and “innocence” are significantly correlated with nostalgic experiences as well as “sad, ” “sorrowful, ” “wishful, ” and “desirous. ” Multiple regression analysis revealed that combinations of joy, sadness, gratitude, and desire were the largest predictors of nostalgia. Dimensional analysis showed a three-dimensional model eliciting positive valence, high arousal, and high dominance, which account for 80% of the variability in responses.

Whereas the immediate concern for the Rutgers group is to analyze consumerism that dealt with nostalgic objects, their research places nostalgia in a social context. A few criticisms should be made about the research on nostalgia, consumerism and marketing. First, the research does not address nostalgia directly. Studies focused on written accounts of nostalgic events, not experiencing nostalgia first-hand (as in Holak & Havlena, 1992; Holak & Havlena, 1998). Nostalgia may have been induced by participants when writing about these events; however, no empirical test was administered to check nostalgic evocation. *Post-hoc* responses in this format

may not accurately reflect objects, themes, and content experienced while being nostalgic. In Holak & Havlena (1998), nostalgia was broadly conceptualized as a passing sensation, a strong emotion, and a lasting mood. Phenomenological differences may arise between these conceptual levels, and may yield variable responses as far as affect, content, and objects are concerned. Also, in Holbrook & Schindler's (1991a, p. 330-331) definition, nostalgia was defined as "any and all liking for past objects that, for whatever reason, are no longer commonly experienced." Certainly, a person may have a liking for an object that is no longer experienced without the phenomenological feeling of nostalgia. "Liking," here does not sufficiently account for phenomenological sensations experienced under nostalgic circumstances. It should be iterated that the Rutgers group's *modus operandi* concerns gathering information that will assist in marketing products for consumers (even more so of a Western audience), and not to directly aid research on affect or specific emotional states.

The direct benefit of nostalgia research from a marketing perspective is that it may inform a psychologist's research on nostalgia as a whole. Findings from the Rutgers group support the idea (although contentiously) that nostalgia is not explained by age, gender, or any other demographic (Holbrook & Schindler, 1991a; Holbrook, 1993). In studying content, several of the themes and objects of nostalgia center on societal gathering and interpersonal contact, often from a 'first-person' perspective (Holak & Havlena, 1992). In examining affective content of nostalgia, Holak & Havlena (1998) found associations between affective words such as "warmth," "joy," "wishfulness," "sadness," "tenderness," and nostalgic experiences. This body of work can help refine psychologists' hypotheses as well as provide opportunities to find converging evidence.

KRYSTINE BATCHO

Krystine Batcho, a psychologist based out of Le Moyne College in Syracuse, New York, has developed interest in nostalgia as a psychological and social phenomenon. In her research, Batcho is careful to differentiate reminiscence and nostalgia, citing that nostalgia is affect that arises from reminiscence—the activity of remembering—and is characterized by a signature ambivalence or bittersweetness. Batcho also supports the idea of functional purposes of nostalgia: one function helps maintain a sense of identity and the other facilitates feelings of social connectedness (2007; 2008). Consistent with the research done by the Rutgers group, Batcho also differentiates between historical and personal nostalgia (Stern 1992; Holbrook 1993).

In order to understand nostalgia as a psychological construct, Batcho (1995) conducted an exploratory study on the content and components of the nostalgic experience. Batcho administered a two part survey—her own Nostalgia Inventory—on 648 participants in an age range of 4 to 80 years. In the first part of the survey, items evaluated respondents' positions on statements regarding “the world as it is now” on a 5-point Likert scale. Ratings were made about past experiences, present situations, and predicted futures. The second part of the survey administered by Batcho examined content of nostalgia by having participants rate “how much they missed” objects from their past (e.g. toys, television shows, people; as well as concepts such as “the way it used to be,” “the way people were,” and “innocence”). Results suggest that the past is viewed as more preferable than the present (consistent with historical nostalgia; Stern,

1992), the present is worse than the past, and that the future is not likely to be any better. No significant interactions between age categories and ratings on “world as it is now” judgments.

In examining ratings of how much respondents missed objects from their passed, Batcho found no significant interactions or effects were found for age and gender—except for a rating of the statement “*not knowing sad or evil things*” from the response items with a lower mean rating by boys than girls in an age group under 12 years of age. Significant age group differences were found on topics involving the objects of holidays, toys, friends, family, school, houses, music; and the concepts of having someone to depend on, not having to worry, the way people were, and not knowing sad or evil things. Effects of age group were not significant for objects: places, loved ones, religion, TV/shows movies; and the concept of how society was. Pairwise comparisons showed that nostalgia declined with increasing age when paired with holidays, pets and toys. Consistent with Davis’ (1979) hypothesis about a “fertile period” and Holak & Havlena’s (1989) song preference study, a peak for nostalgic events was found during college years with sharp decline thereafter. Overall ANOVA revealed no significant effects of gender on responses, nor did gender interact with age group. Age group was significant, contrary to findings in Holbrook (1993) showing age to be an insignificant predictor. Results also suggest that certain individuals experience more nostalgia than others, corroborating Holbrook’s nostalgia-proneness concept. Batcho concludes by positing four perspectives to study nostalgic experiences. A developmental perspective would examine how nostalgic experiences change across life epochs. A generational perspective would probe differences through generational gaps (e.g. Baby Boomers versus Gen X). An affective perspective would examine triggers and the phenomenology of nostalgia, and last would be nostalgia as a personality dimension.

Batcho (1998) sought to correlate personality, memory, and emotionality constructs with nostalgia. In the first study, Batcho had 210 respondents complete the two part Nostalgia Inventory as used in the 1995 study. A 10-item personality evaluation (examining items such as risk taking, spirituality, or logicity) was completed thereafter. Results corroborated earlier results that the past is viewed as more preferable than the present, the present as worse than the past and that the future is not likely to be any better. Using the second part of the inventory, respondents were separated into “high nostalgia” and “low nostalgia” groups, delineated by the highest and lowest quartiles, respectively. High-nostalgia was associated with higher levels of emotionality, powerful memories, and sociability than the low-nostalgia group. No significant differences were found between happiness, spirituality, logicity, boredom, risk/thrill-seeking and high- and low-nostalgia groups. The high-nostalgia groups reported a preference for the past more than the low-nostalgia group, but no significant differences were found for ratings of the future. Significant differences were found between high- and low-nostalgia with optimism or pessimism, as the high-nostalgia group reported more pessimism.

The second study in Batcho (1998) was concerned with reports of higher memory capacities reported in the first study. Two tasks were completed by participants: one task examined free-recall for word memory and the second task asked to recall spontaneous autobiographical memories. The latter task was analyzed for emotional and person-related content and the former with positively- and negatively-valenced nouns. These were again combined with the Nostalgia Inventory, separating groups into high and low nostalgia. Results indicate that there were no differences between high- and low-nostalgia in remembering the nouns, though both groups performed better on recalling positively-valenced nouns. No differences were found in the number of autobiographical memories recalled by high- and low-

nostalgia groups. The average age of memory for recall was 15 years. Whereas there were no significant differences between the groups for emotionality ratings, the high-nostalgia group reported significantly more person-oriented content in their autobiographical memories than did the low-nostalgia group.

To probe possible social bonding relationships associated with nostalgia, Batcho (2007) manipulated lyrical content of composed song lyrics to examine the interactions between social connectedness, affect, and nostalgia. The lyrics were composed specifically for the study by a trained lyricist. Lyrics were composed to be classified by six sets: the first two sets focused on positive affect involved in childhood (e.g. a favorite toy or childhood friends), the third and fourth sets focused on negative affect involved in childhood (e.g. exclusion from a social group, not being able to relive a childhood), the fifth set focused on recounting childhood memories (leafing through a yearbook), and the sixth set focused on returning to a nostalgic setting (childhood bedroom). Participants in the study completed Batcho's Nostalgia Inventory (1995) as well as Holbrook's Nostalgia Index (1993). The respondents then rated each set of lyrics (without any music accompaniment) using a 9-point Likert scale based on seven criteria: whether the lyrics were happy, sad, nostalgic, meaningful, angry, and how respondents liked, and relate to each set. Again, participants were separated into high and low nostalgia groups based on their responses in the Nostalgia Inventory, the highest quartile being the high-nostalgia group and the lowest quartile being the low-nostalgia group. The high-nostalgia group preferred for songs with happy, meaningful, lyrics which they rated to be relative to themselves significantly more than the low-nostalgia group. Also, respondents in the high-nostalgia condition preferred song lyrics that dealt with social connectedness.

Informed by results in her 2007 study, Batcho (2008) wanted to explore the function of identity continuity by again using composed song lyrics with the same procedure. For this experiment, Batcho parsed the criteria into 9-point ratings of happiness, sadness, meaningfulness, and nostalgia. Two personality measures were included in the study, one measuring a person's understanding of his or her sense of self and another that assesses identity style and identity commitment. No main effects were found for composed lyrical sets on nostalgia ratings, and nostalgia was not found to be a function of happiness, sadness, meaningfulness, or personal relevance ratings in the lyrics. Positive correlations were found between a person's reported sense of self and nostalgia ratings, as well as with ratings on a person's own identity meaningfulness. Results suggest that nostalgia is associated with a sense of identity meaningfulness and continuity.

While primarily focusing on descriptive and exploratory research on the content, personality correlates, and affect of nostalgia, Batcho falls under the same practice as research conducted by the Rutgers group. Again, nostalgia induction was not directly measured. Batcho focused on written accounts of nostalgic experiences and nostalgia perception while not directly manipulating experienced nostalgia. The implications of this distinction are not fully realized by the author. For example, she claims in her 2007 study that "sad memories do not evoke nostalgia" (pg. 376). This claim cannot be supported by her research. Batcho's results support the idea that lyrics containing sad content may not signal a person to perceive nostalgia, while not supporting the case that sad content may not induce nostalgia. Nevertheless, the value of Batcho's work is that evidence is provided to support functional roles of nostalgia while providing opportunity to experimentally test hypotheses.

THE SOUTHAMPTON GROUP

Since 2004, Constantine Sedikides and Tim Wildschut have been interested in the phenomenon of nostalgia (Sedikides, 2010). As social psychologists, Sedikides and Wildschut have examined the content of nostalgic memories, stimuli that induce nostalgia, and functions of nostalgia. Primarily, these psychologists define nostalgia as “sentimental longing for one’s past” (Sedikides *et al.*, 2008). Based out of the University of Southampton, UK, Sedikides and Wildschut have collaborated with a diverse group of researchers including psychologists Jamie Arndt, Chris Routledge, Petr Janata, Frederick Barrett, Kevin Grimm, Richard Robins, Xinyue Zhou, and Ding-Guo Gao. Hereafter, I will refer to research done by these psychologists as the Southampton group.

Wildschut *et al.* (2006) sought to examine the content of nostalgic memories, triggers which may induce nostalgia, and possible functions of nostalgic feelings. In a similar methodology as Holak & Havlena (1992), the authors had collected 42 essays of nostalgic experiences. Coding analyses of nostalgic essays show that the author of the memory was the “sole actor” of nostalgic memories, suggesting that nostalgic memories are primarily self-reverential. Also, most nostalgic accounts detail a “negative” life event moving to a “positive” life event, described as a “redemption sequence.” For example, a person’s essay might describe how losing his or her job led to increased time spent with their family. Consistent with Holak and Havlena (1992), persons—such as family members, friends, or other real or imagined people—were the most common objects of nostalgia. Subsequent results, organized by highest frequency

to lowest, were the contents of life events (weddings, parties), settings (such as a nature scene), animals and pets, tangible objects (such as toys), and past selves. Further analyzed descriptions of nostalgic essays revealed that negative affect was the most common trigger of nostalgia, followed by social interactions, sensory inputs such as music and smells or odors, tangible objects, similar events as the triggering event, opportunities for reflection (such as long car rides), positive affect, anniversaries, and settings (such as nature scenes or hometown visits). Two further in-depth studies examined whether participants were more nostalgic under manipulations of negative mood than of a neutral mood, and also by route of loneliness. Results were consistent with the notion that negative affect promotes recall of nostalgic memories, even more so when manipulations directly addressed loneliness. In examining functions of nostalgia, Wildschut and colleagues prompted participants to write about a nostalgic event. Results suggested that manipulations increased a person's positive self regard, increased reported positive affect, and increased their awareness of social bonds.

Routledge *et al.*, (2006) first investigated a restorative function of nostalgia. By restorative, the authors suggest that the phenomenology of an emotional event (here, nostalgia) promote cognitions or behaviors that counteract potentially negative situations or emotions (such as loneliness or awareness of one's own mortality). In this series of studies, Routledge and colleagues tested hypotheses that nostalgia would restore a sensation of meaning to a person's life when the person was faced with their own impending mortality. The assumption is that awareness of one's own mortality will remove a sense of meaning one perceives in his or her own life. In an initial experiment, Routledge and colleagues hypothesized that there was a link between "nostalgic tendencies" and perceptions of death or mortality. First, the authors administered a measure of each respondent's attitude toward the past. Second, participants were

randomly assigned to two groups. In the target group, participants were asked to describe emotions they might feel when thinking about their own death. In the control group, participants were asked to describe their emotions during a painful dental procedure. A survey that measured a person's perception of life meaning was administered as a dependent measure for both groups. Results indicated that participants who positively viewed their past were less likely to report that their life had no meaning under the condition where they were instructed to write about their emotions about their own death. No such relationship was observable in the control condition.

Noting that positive evaluations are not the same as nostalgic sentiments, a second experiment had participants complete the Southampton Nostalgia Scale (SNS) which correlates to Batcho's Nostalgia Inventory (1995). Participants also completed measures of self-esteem and well-being before the experiment. Two conditions—writing about death or dental pain—were again assigned randomly to subjects. A word-completion task then measured death-thought accessibility, where participants filled in letters for a word that either would be neutral or death-related (e.g. COFF_ _ would be either COFFIN or COFFEE). The number of death words completed would then serve as a measure for death thoughts. As in the first experiment, nostalgia-proneness was predictive of decreased death-through accessibility. There was no observable relationship in the control group. No correlations were found with the self-esteem and well-being measures and nostalgia proneness. A final study by Routledge *et al*, (2006) examined whether participants who are feeling nostalgic will mitigate death-thoughts. Participants once again wrote about the circumstances surrounding their death versus a control. Nostalgia was manipulated by having participants write about a nostalgic event and think about it. As expected, participants in the death-thought group reported significantly less mortality salience than in the control group.

Informed by results in Wildschut et al, (2006, studies 3 and 4), Zhou et al. (2008) endeavored to show that nostalgia may indirectly decrease people's feelings of loneliness by route of directly increasing their perceptions of social support using nostalgic manipulations. This is suggestive of a functional "coping strategy" to reduce a person's loneliness. Sampling from Chinese school children, regional workers, and university students, this series was one of the few that aimed to incorporate cultures of non-western participants. In the first study, associational relationships between social support, nostalgia, and loneliness were established. Chinese school children completed self-report measures of nostalgia, loneliness, and social bonding. Results indicate positive associations between loneliness and nostalgia, as well as nostalgia and social support. Conversely, a negative association was found between nostalgia and loneliness.

A second study by Zhou and colleagues examined whether nostalgia was induced by loneliness. Undergraduate students at a Chinese university completed an inventory on loneliness. Participants were given bogus feedback informing them that they were "lonely" and then completed a manipulation check confirming that they report feeling lonely at that moment. A control group was not subjected to loneliness manipulations. Both groups then completed an inventory measuring nostalgia. Reports of nostalgia were significantly higher in the group that had been given feedback that they were lonely. A similar third study had participants write about a nostalgic event or an ordinary daily event. Participants who wrote about a nostalgic event reported significantly higher feelings of reported social bonding than the control group.

A final study attempted to show that persons who are resilient may employ nostalgic feelings to cope with bouts of loneliness. Defining resilience as an ability to resist the effects from negative stimuli (such as trauma or unfavorable life events), results suggest that nostalgia

induction occurs in both resilient and non-resilient individuals, and resilient individuals may use nostalgic memories in order to limit their susceptibility to loneliness-evoking events.

In sum, the research of the Southampton group suggests that nostalgia may be a restorative or coping strategy for instances where negative affect is experienced. Routledge and colleagues (2006) propose that nostalgia may help buffer mortality salience and restore a sense of meaning to one's life. Zhou *et al.* (2008) suggest that nostalgia evocation can counteract feelings of loneliness, especially in resilient individuals. Exploratory research conducted by Wildschut *et al.* (2006) show that negative affect, interpersonal interaction, and sense stimuli were the most commonly reported triggers of emotion while people, meaningful events, and natural scenery were the most common objects. They also report that the self among a context of objects was the most common object. Unlike research conducted by the Rutgers group or Krystine Batcho, the Southampton group designed experiments to induce nostalgia experimentally. By having participants write about nostalgic events, they checked the manipulation using a 2-item manipulation check (e.g. "*I am feeling nostalgia right now,*" "*I am currently having nostalgic thoughts.*"). The researchers claim they were able to induce nostalgia when the manipulation check was significant. One of the main criticisms to nostalgia as its own psychological construct was proposed by Leboe & Ansons (2006). Leboe & Ansons suggested that nostalgia was an artifact of successful remembering, explaining its predominantly positive affective signature. A series of studies demonstrated that regardless of the encoding of positive or negative words, successful remembering significantly increased reported positive emotions. However—as Barrett *et al.* (in press) note—autobiographical stimuli were not used in the study by Leboe & Ansons. As a result, Barrett and colleagues purport that Leboe & Ansons did not study a valid nostalgic construct.

NOSTALGIA AND MUSIC

Recent studies on music and emotions suggest nostalgia is a commonly associated with autobiographical songs. Janata, Tomic & Rakowski (2007) downloaded 1515 song samples comprised of Billboard Top 100 Pop and R&B songs. 329 participants listened to a randomly-selected sample of 30 songs from the 1515 downloaded songs. After each listening, participants responded to questions regarding their own affective response, familiarity, and autobiographical salience. Results show that 27% of the respondents chose ‘nostalgic’ as an affective response to listening to their sample. This was the third most common response behind “happy” and “youthful.” Juslin *et al.* (2008) employed an Experience Sampling Method (ESM) to investigate affective responses to music heard in everyday life. Thirty-two participants were provided with a palm pilot to be carried with them at all possible times that was programmed to beep seven times per day for 14 days. When the palm pilot beeped, participants responded on the palm pilot’s interface whether or not music was being played somewhere around them. They answered questions regarding whether or not the music was playing a role in their current situation, their motives (if any) or choices for listening, what was causing emotions during the musical episode, and what emotions they were feeling. In situations where music was present, the third most common emotion reported was nostalgia, and nostalgia was an emotion that significantly more prevalent during musical episodes.

Zentner, Grandjean & Scherer (2008) posited that domain-specific approaches to emotions evoked by music were appropriate to study the possible categories or factors that

describe affective responses to music. In their methodology, the authors first focused on emotions that can be felt or induced within a person. They had participants select emotions from an extensive list of 515 terms representing emotional states. Terms that were agreed upon by over 66% of the respondents were retained. The final list of terms contained 133 words for emotional states. A follow-up study asked 292 participants if the terms were musically relevant, yielding 89 terms. A factor analysis organized the terms into ten categories: *tender longing*, *amazement*, *joy*, *peacefulness*, *power*, *sensuality*, *spirituality*, *activity*, *dysphoria*, and *sadness*. Nostalgia was categorized under tender longing. Using these categories, Zentner and colleagues administered a questionnaire that was given to attendees of a music festival in Geneva, Switzerland. The authors claimed that the sample was diverse as the festival draws from a range of genres and styles of music with a breadth of cross-cultural festival-goers. Respondents chose emotion terms based on what they were feeling while listening to music and rated the intensity on a three-point scale. Results from 801 participants indicated that a “nostalgic” affective state was the 8th highest chosen term out of 66 terms that people rated on the upper-two points of intensity. The term “nostalgic” was significantly correlated with the emotional categories of wonder, transcendence, and tenderness.

The first study to exclusively address music-evoked nostalgia was conducted by Barrett *et al.* (in press). Specifically, Barrett and colleagues sought to examine relationships that exist between a person and a piece of music that induces nostalgia, as well as individual differences between people who listen to nostalgia-evoking songs. Two constructs are used as a heuristic model for conducting their research. The first construct is a context-level construct. This construct deals with a person’s relationship with the song, including: emotions induced or perceived in the song, their familiarity with the song, and how arousing they find the song to be.

The second construct is a person-level construct that explores individual personality traits and characteristics of a listener. Here, the principle concern is the differences between listeners.

Within context-level constructs, the authors hypothesize that autobiographical salience, familiarity, arousal, and high emotionality will be the largest predictors of nostalgia. For person-level constructs, negative mood, nostalgia-proneness, and specific personality traits are hypothesized to be predictors of nostalgia. Also, the researchers were interested in how context- and person-level constructs may interact. It is possible that combinations of factors may exhibit observable interactions with one another. Based on these level constructs, Barrett *et al.* posited that specific associations people have formed between songs or pieces of music and their past events are the triggers of musically-evoked nostalgia.

Barrett and colleagues had 226 undergraduate participants listen to 30 song clips that were 15 seconds in duration. The songs that were chosen were released when each participant was between the age of 7 and 19 years old with the average around 15 years. To assess context-level constructs, participants indicated on a 1-5 scale after each listening: how nostalgic each song made them feel, how arousing the song made them feel, how familiar the song was, and how autobiographically salient each song was. Participants also chose emotions they had felt during the listenings from a 29-item discrete emotion list that included 13 positive emotions and 16 negative emotions. The authors also measured for instances of mixed emotions. To measure person-level constructs, Barrett *et al.* had participants complete a nostalgia-proneness scale, a five-factor personality measure, a measure of mood state, and self-report measure on behavior.

Results show that 26% of song listening were rated as 3 or higher (“somewhat nostalgic” to “highly nostalgic”), while 24% of the variance of the nostalgia ratings were explained by interactions of person- and context-level constructs. Of context-level constructs, high

autobiographical salience, high arousal, high familiarity, and greater numbers of positive and negative emotions were predictive of reported nostalgia. For person-level constructs, none of the five factors of personality alone significantly correlated with reported nostalgia, nor did self-reported behavioral measures aside from a negative correlation with playful behaviors.

Nostalgia-proneness was positively correlated with reported nostalgia, and negative mood ratings were correlated with nostalgia responses. When factored together, no reported correlation was able to predict the nostalgia ratings except for nostalgia-proneness, suggesting nostalgia-proneness was a robust predictor of nostalgia induced by music. It should be noted that an effect of nostalgia-proneness on the “Neuroticism” factor of the five-factor personality inventory was significant. The only notable interaction was that context-level variables were highly correlated with nostalgia-proneness. Ratings of emotions showed that positive, negative, and mixed emotions were reported during the listenings, and mixed emotions were reported more during nostalgic experiences than during non-nostalgic experiences. Non-autobiographical and unfamiliar songs elicited the highest reports of irritation and disgust. Sadness was the highest reported emotion for songs that were autobiographically salient, but significantly higher than for songs that also reportedly induced nostalgia. Positive emotions were interpreted as remaining constant across nostalgic or autobiographical experience ratings, whereas negative emotions were more prominent in instances where nostalgia and autobiographical salience were reported. In an effort to examine if particular musical attributes would evoke nostalgia, the authors conducted a follow up study to see if there was high agreement among participants if songs were “nostalgic.” Barrett *et al.* were unable to identify underlying musical structures that are predictive of nostalgia. Although negative results are difficult to interpret, these results are consistent with the idea that music-induced nostalgia may be idiosyncratic to the listener.

A few considerations should be discussed in terms of the study performed by Barrett and colleagues. As noted by the authors, the sample only represents undergraduates from California, USA. To build a better understanding of factors that predict nostalgia, extensive cross-cultural research will need to be conducted. Also, the age range that was considered for song sampling does not specifically reflect nostalgia. The authors only chose songs that were released when participants were between 7 and 19 years old. This range was informed by Janata *et al.* (2007) when examining participants reported nostalgia for autobiographical songs. A nostalgia-specific age range may have yielded a better sample of potentially-nostalgia inducing songs. Aside from these caveats, this study by Barrett *et al.* provides evidence for specific factors that may predict musically-induced nostalgia. This evidence is able to narrow operational definitions of what a nostalgia-inducing song may be.

Cross-culturally, music and nostalgia have also been discussed. Although no empirical work was able to be located, nostalgic sentiments have at least been topical in musicology and anthropology. In the Japanese musical genre of *Enka*, nostalgic feelings are cited as a central feature of listening to the music in order to foster a yearning for past memories while keeping the past itself distant (Yano, 2002 p. 15). It is suggested that distension between a present yearning and keeping the past distant allows for a prolongation of nostalgic sentiments allowing listeners to cradle nostalgic affect for longer. In Brazil and Portugal, the feeling of *saudade* may be translated a melancholic as a form of nostalgia and loneliness. (Viera, 2007; Feldmann, 2007). Though no direct English translation exists, *saudade* has become a musical theme akin to nostalgia and feelings of separation (Gray, 2007).

GENERAL CONSIDERATIONS

It is clear that nostalgia “is not what it used to be.”¹ The writing of Hofer (1688) and McCann (1941) demonstrate that nostalgia and homesickness were interchangeable terms and alluded to an array of possible psychological disorders. Into the 20th century, nostalgia and homesickness were no longer one in the same; nostalgia today refers to phenomenological feelings that arise from the activity of reminiscing about one’s past, often marked by an ambivalent bittersweetness (Davis, 1979). It has been suggested that nostalgia serves the purpose to foster social connectedness, maintain a sense of continuity across changing life epochs, and help regulate mood as a coping strategy (Batcho, 2007; Batcho 2008; Wildschut *et al.*, 2006, Zhou *et al.*, 2008; Routledge *et al.*, 2006). Consumer research purports that evoking nostalgia can be an effective marketing strategy (Havlena & Holak, 1991; Holbrook & Schindler 1991a.) Recent research on music suggests that nostalgia is an emotion that arises when listening to autobiographical salient songs (Barrett *et al.*, in press; Janata *et al.*, 2007).

Ostensibly, the definition and conception of nostalgia across the last few decades has been inconsistent. Researchers may be examining two or more different phenomena that are all considered *nostalgia*. For example, Holbrook & Schindler (1991) define nostalgia as “any and all liking for past objects that, for whatever reason, are no longer commonly experienced,” whereas the Southampton group defines nostalgia as “sentimental longing for one’s past” (Sedikides *et al.*, 2008). There are noticeable differences between the definitions: one definition stresses the

¹ Taken from an audience comment during Sedikides, 2010.

importance of liking of objects and the other stresses sentimental longing. Similarly, nostalgia may be a larger psychological construct that involves several feelings that are dependent on a person's unique characteristics. Holak & Havlena (1998) carried out a study where they examined reported combinations of affect that are consistent with respondents' views on nostalgia. Terms such as "tenderness," "joy," "sorrow," "warmth," and "wishfulness," all may be separable affective states. Also, research by the Rutgers Group and Krystine Batcho differentiated between personal and historical nostalgia in an attempt to maintain consistency; however, this definition was not used by the Southampton group. Combinations of these states in conjunction with contextual information and cognitive appraisals during nostalgic experiences may complicate an operational definition of nostalgia.

II. CURRENT STUDY

Provided that nostalgia may be a strong musically-related emotion and nostalgia may serve social bonding functions, nostalgia-inducing music may be able to increase feelings of social satisfaction in listeners. Seeking autobiographically-related songs that evoke nostalgia may be a way to update and bolster satisfaction with one's current social network. First, I provide a discussion on the conceptual definitions of variables that I will be using in the study. Second, I will provide an overview of the methodology of the study then detail the procedure used to test the hypothesis.

DISCUSSION OF CONCEPTUAL DEFINITIONS

Social Bonding

Of the proposed functions of nostalgia, its social utility has been the most explored in the research literature. Recalling and writing about nostalgic events have been shown to increase reported perceptions of social bonding support regarding significant others, family members, and close friendships (Wildschut *et al.*, 2006; Zhou, *et al.*, 2008, Study 3). During bouts of loneliness, writing about a nostalgic event counteracts participants' lonely feelings (Zhou *et al.*, 2008). Sedikides has found similar effects of nostalgia manipulations suggesting that nostalgia: improves social competence, increases charitable giving and volunteer work, increases awareness of in-group satisfaction and in-group identification, prolongs commitment to and improves the opinion of one's in-group, increases the perception of the number of friends one currently has, and heightens feelings of love and protection within a social group (Sedikides, 2010).

Research on autobiographical memories suggests it serves a purpose to enhance and maintain social bonds as well. (Alea & Bluck, 2003; Bluck & Alea, 2009; Nelson, 1993; Neisser, 1998; Pillemer, 1998). Similar proposals are made for reminiscence—the processes of actively recalling autobiographical memories—to demonstrate social bonding functions for individual persons and interpersonal relationships (Cappeliez, Rivard, & Guindon, 2007). In Cappeliez, Guindon, & Robitaille, (2008), elderly participants who are asked to describe their last reminiscence episode yield results that are similar to redemption sequences (negatively-valenced

memories transforming into positively-valenced memories) as shown in nostalgia manipulations by Wildschut *et al.* (2006 studies 1 and 2). Evidence here suggests that the content and activity of recalling autobiographical memories alongside nostalgia may serve a social utility. However, Sedikides argues that nostalgic feelings are responsible for the social bonding functions elicited by memories—not autobiographical memories or reminiscence in itself. Sedikides claims that bringing to mind a positive autobiographical event does not elicit the social effects as observed when nostalgia is manipulated (personal communication, January 21, 2010).

The social bonding effect I will be examining is the satisfaction one person might evaluate with their current social group, including measures for friends, family, and significant others. I will be using the Mutlidimensional Scale of Perceived Social Support (MSPSS), a 12-item measurement with subsections for friends, family, and significant others (Zimet *et al.*, 1988; and used by Zhou *et al.*, 2008). The MSPSS presents statements such as, “*I can count on my friends when things go wrong,*” and, “*My family really tries to help me.*” The definition of *perceived* here should not be misconstrued with a person observing social satisfaction or bonding between two external entities, but rather his or her own awareness of the extent of fulfillment close social relationships. The MSPSS is reproduced in Appendix I.

Nostalgia

As discussed earlier, the definition of nostalgia is not consistent throughout the literature. As a result, research on nostalgia may be examining too wide or too narrow of constructs that accurately describe the phenomenon. For the purposes of the experiment, I opted for a colloquial definition when treating nostalgia in the study as to not complicate instructions for participants. I

provided this definition: “Nostalgia may be characterized by feelings of longing and bittersweetness for any part of your past.”

Nostalgia-inducing songs

In this study, I will be focusing on context-dependent variables. Barrett *et al.* (in press) split variables that predict music-evoked nostalgia into context-level variables and person-level variables. Context-level variables are a person’s relationship to the song itself, including its power to evoke emotions, the valence of the felt emotions, and the level of familiarity. Person-level variables are individual differences between people such as personality characteristics or nostalgia proneness. When operationalizing nostalgia-inducing songs, I attempted to have participants select songs that are consistent with context-level predictors of nostalgia induced by music as suggested by Barrett *et al.*: autobiographical-salience, reports of positive, negative, and mixed emotions, high arousal, and familiarity.

OVERVIEW

A preliminary survey first gathered an age range that indicates an average age in which nostalgic songs were released. Using this average age, I requested participants of an experiment to provide examples of potentially nostalgia-inducing autobiographical songs. Participants in a target group listened to these songs and completed the MSPSS measuring social support satisfaction as well as a 2-item report of nostalgic feelings. A control group listened to stimuli that are not nostalgia-inducing. Formally, my hypothesis is that participants who are exposed to

nostalgia-inducing autobiographical songs will report higher feelings of perceived social support than participants who were not exposed to nostalgia-inducing autobiographical songs.

SURVEY

Thirty-three participants completed a survey asking for songs that reportedly made them “feel nostalgia.” Each participant was asked to submit at most four nostalgic songs as well as their age, gender and college major and/or occupation. Participants received the following instructions:

We are looking for music that makes people nostalgic, and we need your help!

Nostalgia may be characterized by feelings of longing and bittersweetness for any part of your past. In the spaces below, please name four songs that make you feel nostalgia when you listen to them. Afterwards, please fill in your gender, age, and college major or occupation.

Results

Of 33 completed surveys, 31 submitted their age. 22 females and 9 males in age range of 34-84 years ($M = 51.7$, $SD = 10.75$), identified 111 instances of songs they reported to evoke nostalgia. The year of release for each song was found using songfacts.com or wikipedia.com. These song-release years were then subtracted from the year of birth for each respective submission to determine the age of the person at the time each song was released. The age of the person at the time the song was released will hereafter be referred to as the age at nostalgic song release, or ANSR. Each ANSR was averaged together to get an average ANSR per survey participant.

Songs that were released prior to the date of birth for the submitter were given a value of a 0 when determining ANSRs. For example, if a participant cited a church hymn as a nostalgic song, the origin of the hymn tune may be traced back several centuries. In this case, an age of 0 was assigned for the ANSR. This is also true of songs released just prior to participants' birth years. As a consequence, ANSRs are biased toward earlier ages, *a fortiori* as the ANSR may not reflect the precise time when a listener heard the song. To remain consistent with the method of using the year of a song's release to determine ANSRs, it is possible to calculate ANSRs using negative ages. However, the implications of choosing a the year of song release and a value of 0 for songs released prior to participant's birth is that ANSRs reflect the earliest possible times when each participant would be able to have heard the song.

Results in Table 1 show that the survey participants were at a grand average ANSR of 16.5 years (SD = 9.4). Organizing the results into age groups, participants in the age group of 30–39 were calculated to have an average ANSR of 14.3 years (SD= 4.4), 14.1 (SD = 8.1) for participants aged 40-49, 17.8 (SD = 5.9) for participants aged 50-59, and 18.7 (SD = 5.6) for participants aged 60-69. One final participant, age 84, was calculated to have an average ANSR of 17.0 years for reported nostalgic songs. Figure 1 shows a scatterplot of survey participants' real age (x-axis) versus their average ANSRs (y-axis). Pearson's r was calculated at .31.

Age Group	Average ANSR	Standard Deviation
30-39 years	14.3	4.4
40-49 years	14.1	8.1
50-59 years	17.8	5.9
60-69 years	18.7	5.6
84*	17.0*	-
Total:	16.5	9.4

Table 1. Average ages during the release of songs for which participants reported nostalgia, known as age at nostalgic song release (ANSR). Participants in the age group of 30–39 years were calculated to have an average ANSR of 14.3 years (SD = 4.4), 14.1 (SD = 8.1) for

participants aged 40-49, 17.8 (SD = 5.9) for participants aged 50-59, and 18.7 (SD = 5.6) for participants aged 60-69. The grand ANSR for all age groups was 16.5 (SD=9.42). *One participant, age 84, was calculated to have an ANSR of 17.0. One participant, age 84, was determined to have an average ANSR of 17.0.

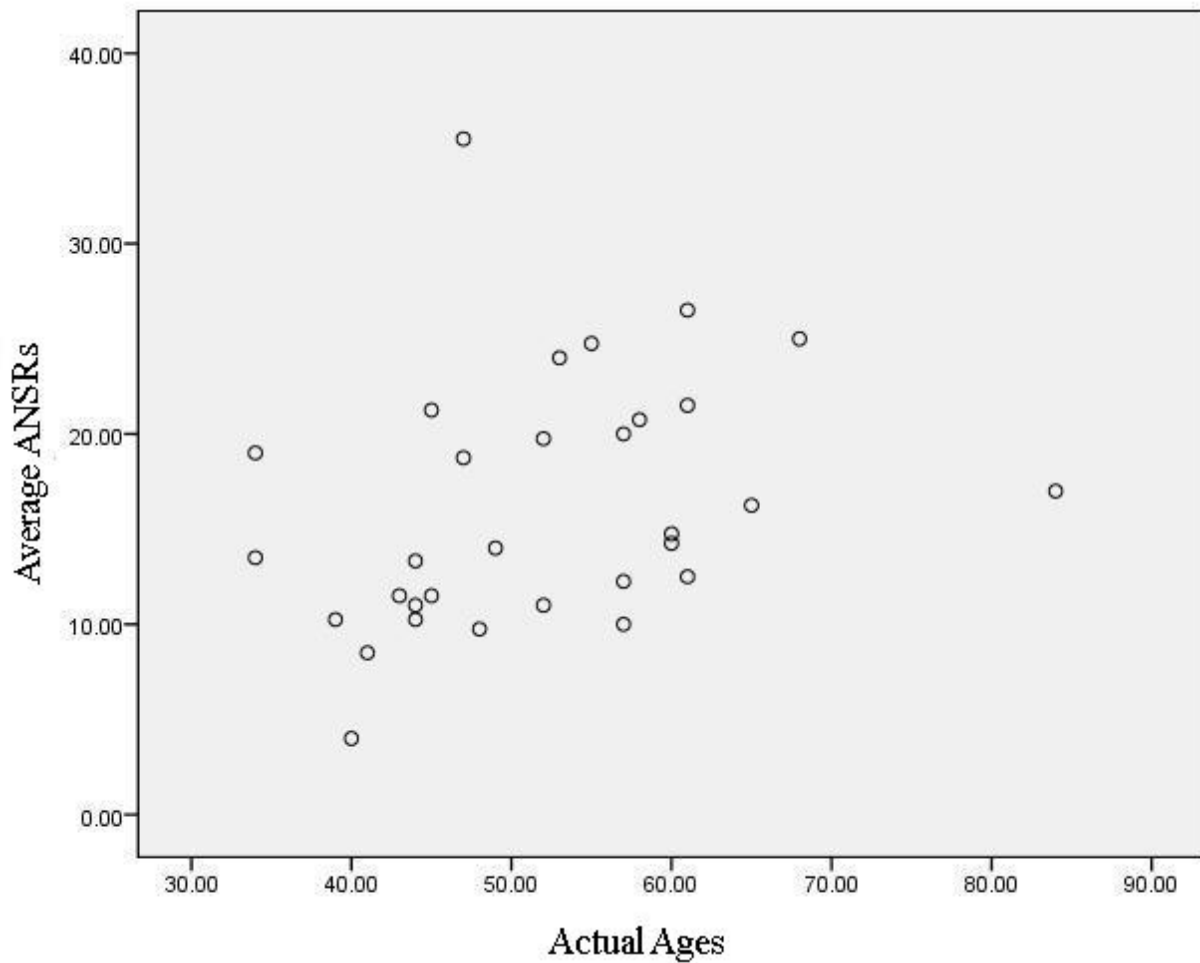


Fig. 1. Scatterplot showing participants' age at the time of the survey (x-axis) versus average age for the year of release of songs they reported as evoking nostalgia (ANSRs) on the y-axis. Pearson's r is calculated at .31

EXPERIMENT

Participants and Procedure

Eleven participants (7 male, age range 19-30, $M = 22.9$) were recruited from second-year music courses for participation credit or volunteered independently. In preliminary E-mail correspondence, participants were asked to cite three popular songs that held some meaningful autobiographical salience. Participants received the following instructions in an email:

Thank you for participating in this study on emotions for high-school song preferences. In order to conduct this study, I will need to gather some information about songs you listened to in high school. Please reply with a list of three songs, including the artist or band who performed them and the album from which the song came. These songs should be ones you loved to listen to in high school, had a special attachment to, and experienced very intense emotional experiences while you listened to them. Thank you again for your participation!

This request is designed to gather songs that will potentially evoke nostalgia in subjects based on the average ages indicated by the survey, aiming for an age range of 15-18 years. Participants were randomly assigned to two groups. In the target group, participants listened to three 60-second clips of popular songs. The first two songs played were 30-second clips that were not cited by the participant initially. These clips were randomly selected from songs cited by participants other than the target subject. The final 60-second stimulus played was randomly selected from the songs that had been identified by the target subject. The subjects in the target group were not aware that a song they cited in the preliminary E-mail was to be played. After each stimulus, subjects rated their familiarity with each stimulus on a 1-7 scale. In the control group, participants listened to three 60-second clips comprised only of songs cited by participants other than themselves in preliminary E-mails. In this control group, participants did

not hear any clips from songs they had cited. Once again, subjects rated their familiarity with each song.

Stimuli

All songs were downloaded from iTunes and all stimuli played consisted of the first 60 seconds of each song. As shown by Barrett *et al.* (in press), autobiographical-salience, high arousal, and familiarity were the largest predictors of nostalgia. Using participant-generated songs may increase the likelihood of familiarity and autobiographical salience between subjects and the songs they cited. The preliminary E-mail also aimed to gather highly emotional songs. Popular songs were used as stimuli in order to maintain consistency across recordings whereas classical or world music may have several different recordings that may confound familiarity. All stimuli were listened to through headphones with volume set to a comfortable level by subjects. Participants were able to play the song clips at will, but had to listen to the entire clip before stopping or responding to familiarity inquiries.

Measures

Following the method described by Wildschut *et al.* (2007), each group responded to a 2-item nostalgia manipulation check (i.e. “*I am feeling nostalgic right now,*” “*I am currently experiencing nostalgic feelings*”) on a 1 to 7 scale after all listenings were completed. The participants then completed the 12-item Multidimensional Scale of Perceived Social Support—MSPSS (Zimet *et al.*, 1988, reproduced in Appendix I). As discussed earlier, this scale measures

feelings of social satisfaction among three discernable social groups: friends, family, and significant others. The MSPSS includes statements such as, “*I can count on my friends when things go wrong,*” and, “*My family really tries to help me.*” The MSPSS was embedded in two other measures of emotional feelings that were not relevant to this study: the Curiosity and Exploration Inventory (Kashdan, Rose, & Fincham 2004) and the Meaning in Life Questionnaire (Steger *et al.*, 2006). These irrelevant measures were not analyzed.

Results

Data was analyzed using MANOVA with reports of nostalgia ratings and the MSPSS as dependent variables. Initially, familiarity was a covariate but analysis indicated that it was a nonsignificant variable overall ($p = .17$) and nonsignificant on nostalgia reports ($p = .11$) and the MSPSS ($p = .14$) separately. As a nonsignificant variable, ratings of familiarity were discarded. The multivariate test indicated that there was not a significant effect of being in the target or control group on ratings of nostalgia overall ($F = 3.15$; $p = .10$). Univariate tests showed no significant difference between the two groups on ratings of social support ($F = 0.15$; $p = .70$) or on reports of nostalgia ($F = 4.85$; $p = .08$). Results suggest that listening to potentially-nostalgia inducing songs had no significant effects on reports of nostalgia or reports of social support satisfaction.

III. DISCUSSION

In this study, I examined whether nostalgia-inducing music increased listeners' perceptions of social bonding satisfaction. First, a preliminary survey gathered information on average ages of participants during the year of release for songs that made them nostalgic

(ANSR). Results suggest that an average ANSR of 16.5 years may be associated with a life epoch in which songs are released that may induce nostalgia later in life. Second, participants provided examples of potentially nostalgia-inducing music, unaware they were going to listen to them during the experiment. In two groups, subjects either listened to 60-second clips of three songs that other subjects had provided to be nostalgia inducing, or they listened to two songs that others had cited as being nostalgia-inducing with the final song being one they had cited in a preliminary E-mail. Subjects in the latter group did not report significantly higher feelings of social satisfaction based on the Multidimensional Scale of Perceived Social Bonding (Zimet *et al.*, 1988) as opposed to the control group. Participants in the target group also did not report significantly higher feelings of nostalgia. Familiarity ratings did not have significant interactions on perceived social support or reports of nostalgia.

Several points should be discussed regarding the results of the survey. First, the age range indicated by the results is consistent with a cognitive bias known as the *reminiscence bump* (Janssen & Murre, 2008). The reminiscence bump describes an age range between early adolescence and late adulthood that is the most cited life epoch when people are asked to recall any autobiographical memory. The results from the survey I conducted—16.5 years for the grand average ANSR—appear to fall within the span of the reminiscence bump. People report nostalgia for songs that were released when they were young adolescents or early adulthood. Davis (1979) hypothesized that early adulthood was considered a ‘fertile period’ for the encoding of stimuli that people would later report nostalgia for. Holbrook & Schindler (1989) also suggested that music preferences developed during adolescence. Batcho (1995; 1998) examined spontaneously-recalled autobiographical memories and found that the average age of the person during the memory was 15 years. As a consequence, experiencing nostalgia for times that fall within the

span of the reminiscence bump may not describe any significant role of early adolescence into adulthood on nostalgia itself, but may be a part of a larger memory phenomenon that occurs during this developmental period. Second, a positive correlation was found between respondents' real age and ANSRs. This result may suggest that the older the person is songs that were released on later adolescence and adulthood will be accompanied by reports of nostalgia. Though this result was not significant, further testing should examine differences between age groups

. Whereas the results of the experiment suggest that the participant-selected songs did not induce nostalgia and did not have any effects on satisfaction ratings of social bonding, nonsignificant results are difficult to interpret. The obvious interpretation is that the manipulation was not successful. Participants, though they chose songs that may have or will induce nostalgia at some point, did not indicate higher nostalgia ratings than a control group. This is not to say that I can attribute an ecologically-invalid setting as the reason for nonsignificant results; participants just may not have reliably felt nostalgia when listening to a song they had indicated in the preliminary E-mail.

Second, it may have been the case that using predictors of nostalgia as indicated by Barrett *et al.* (in press) were not sufficient for this study in choosing songs that may have potentially induced nostalgia. In the study, I asked for “songs should be ones you loved to listen to in high school, had a special attachment to, and experienced very intense emotional experiences while you listened to them.” This does not guarantee that nostalgic songs will be cited. Asking specifically for nostalgic songs and playing these songs for participants may have been a more suitable route to measure social bonding satisfaction.

A plausible third interpretation is that the operationalization of nostalgia-inducing songs was not consistent with the predictors of nostalgias indicated by Barrett *et al.* (in press). In my experiment, I did not measure self-reports on felt positive and negative emotions and arousal as had been measured in the study by Barrett and colleagues. Nostalgia may necessarily have to be accompanied by strongly felt emotions and high arousal to be observable, although this stance is not empirically evidenced. These variables were not included as measurements in the present research design.

When designing the experiment, context-level variables first used by Barrett *et al.* (in press) were differentiated from person-level variables that were not examined in this study. I only examined a person's relationship with potentially-nostalgia inducing songs. Barrett and colleagues stress the importance of the interactions between person-level and context-level variables. Specifically, it was suggested that nostalgia-proneness is a robust predictor of nostalgia-inducing music. Nostalgia-proneness was also a factor suggested by Holbrook (1990; 1993), Holbrook & Schindler (1991), Batcho (1995; 1998), McCann (1941) and Davis (1979). It raises the question as to why nostalgia-proneness was excluded from this study. Simply, I only endeavored to test a hypothesis based on a person's relationship with a song, not based on differences between people. An experiment with an adequate control is interested in causal relationships between not several, but a few variables. I excluded nostalgia-proneness in my study not because I believe it is an unimportant factor, but because it is suggested that nostalgia is a complex phenomenon. To understand this complex phenomenon, I chose to examine relationships experimentally where I can control confounds. Also, the introduction of nostalgia-proneness would invite considerable methodological and statistical changes. Nostalgia-prone individuals would have to be *a priori* assigned to each group. Both target and control groups

would have to have a high- and low-nostalgia condition. Two dependent measures and one covariate would be measured for each of the four conditions. In order to interpret meaningful results, a significant statistical power would need to be achieved. This statistical power would be based on a very large sample size for this many conditions and variables. Considering the size of the subject pool available, it is not feasible to incorporate so many variables and conditions.

Caveats

Aside from the interpretations of results indicated by the experiment, several caveats of the research design should be addressed. In the nostalgic-song survey, ANSRs do not reflect when (if at one given time) a song is encoded in a manner that would be reported as nostalgic later in life. It is possible that some songs that induce nostalgia take several years in order to become autobiographically-salient. I assumed that a narrow age range—high school years—to choose stimuli was adequate for the experiment. Similarly, a person's association with high-school may be negative and as a result they may view songs during this time as aversive. Second, the results of the survey do not include participants aged 20-29 which were the majority of the participants age for the experiment.

Caveats in my experiment should also be noted. First, the results of my experiment only represent undergraduate music majors in central Ohio. Samples that include diverse age groups and cultures are necessary to determine if the results are confirmatory or generalizeable. Second, to avoid inconsistent conceptualizations across empirical nostalgic literature, I opted for a more colloquially-understood definition of nostalgia for participants to understand. Subsequently, the nostalgia construct I purport to measure may not be consistent with definitions of nostalgia constructs that are found in the literature. Third, my study relies heavily on self-report studies.

Self-report measures may not be representative of the true emotions or cognitions a person is feeling. Also, a demand characteristic may be confounding results. When asking for songs from high-school that people have attachments to, participants in the target group may attempt to determine my hypothesis when they actually hear a song they had selected in preliminary E-mail correspondence. This demand characteristic may facilitate or debilitate self-reports. Whereas the existence of such a demand characteristic is possible, post-experiment interviews suggested that participants were unable to determine the hypothesis being tested.

Another caveat was that the predictors of nostalgia for context-level variables were not tested to induce nostalgia separately. Although I was informed by these variables, I cannot interpret my methodology as having successfully tested context-level variables. A study should be conducted where instructions specifically request songs that are autobiographically-meaningful, highly arousing, and accompanied by intense experiences of positive, negative, and mixed emotions. These songs would then be played to a target group while a control group listens to songs that were chosen from other participants. Measurements would include extensive nostalgia self-reports including: the manipulation check, nostalgia-proneness scales (e.g. the Southampton Nostalgia Scale, Zhou *et al.*, 2008), and nostalgia inventories (such as Batcho, 1995; Holbrook & Schindler, 1991a). Having these hypothetical results, musically-induced nostalgia would then be examined alongside reports of social bonding in a separate study.

CONNECTING NOSTALGIA, SOCIAL BONDING, MUSIC, AND ADOLESCENCE

The life epoch of adolescence has been a commonly addressed topic in research on nostalgia, autobiographical memories, and music. Davis (1979) proposed that late adolescence

and into early adulthood was a “fertile period” for development of memories that would induce nostalgia later in a person’s life. He suggested that nostalgia helps a person to maintain or update their identity across major life changes, such as moving away from home, changing jobs, or marriage. Similarly, McCann (1941) posited that adolescence was a heightened time for a person to experience nostalgia, as individuals in this age group are often faced with developmental challenges. Though Davis and McCann view the onset of nostalgic memories during and after adolescence differently, they both suggest that nostalgia helps a person to maintain a sense of their identity during major life changes. Batcho (1995) analyzed written accounts of nostalgic memories and reported that the average age of a person during these memories is 15 years. As discussed earlier, the observations that significant amounts of memories and memory-related phenomena come from adolescence might be explainable under the phenomenon of the reminiscence bump (Janssen & Murre, 2008). However, as Janssen & Murre explain, no tested hypothesis known to the authors supports an explanation for the bump in memory recall for this life epoch.

Two consistently discussed functions of nostalgia are social bonding and maintenance of identity. Using manipulations of song lyrics, Batcho (2007) suggested that nostalgic individuals rate lyrics describing social connectedness as more preferable. In another study, Batcho (2008) showed that heightened awareness of identity was reported when nostalgia-prone subjects read nostalgia-related musical lyrics. Wildschut *et al.* (2006) showed that the content and themes of *people* were the most reported objects of nostalgic memories and also that negative affect was the most common trigger of nostalgia. Negative affect might include discontinuities experienced while moving through life changes. People might use nostalgia to maintain a sense of identity and feel socially connected during these times. While this specific hypothesis has not been

tested, related studies from the Southampton group suggest similar functions. Routledge and colleagues (2006) proposed that nostalgia helps to restore meaning to a person's life when faced with thoughts of their own mortality. Wildschut *et al.* (2006) showed increased perceptions of social bonding when subjects wrote about a nostalgic event. This study was replicated in Zhou *et al.* (2008) and expanded upon to suggest that nostalgia can mitigate perceptions of loneliness.

Musical preferences have also been proposed to be developed during adolescence. Holbrook & Schindler (1989) reported that adolescent years accounted for a significant amount of the variability in music preferences and listening habits. Similar results were found by Delsing *et al.* (2007) and also that these adolescence-related music preferences were shown to be stable across a three-year period. Moreover, it is suggested that early adolescents' social bonds are informed by musical preferences (Selfhout *et al.*, 2009). The present survey reported in this paper shows that people report nostalgia for songs that were released when they were on average 16.5 years old. Also, when studying musically-induced nostalgia, Barrett *et al.* (in press) proposed that associations that a person makes with their past and specific pieces of music are the triggers of nostalgia evoked by music.

If music preferences inform social bonds as Selfhout and colleagues suggest, it may be the case that memories of social bonds are triggering feelings of nostalgia. Moreover, the social bonding and identity functions related to nostalgic thoughts may be the result of associations formed between objects and person's past. In the example of this paper, it may be the case that social bonds important to an adolescent become associated with musical preferences that are shared during adolescence. Presumably, these perceptions of social bonding are manifested during nostalgic experiences and help to enhance social behaviors and cognitions. I am suggesting that music listened to during adolescence was informed by social relationships. A

learned association may be formed between music and social bonds—that when listened to later in life—can elicit nostalgia. The association between the music and social bonds may lead to heightened perceptions of social bonding can be reappraised to their current social support group. This may be especially robust in situations where negative affect is induced—namely during stressful life changes. Whereas the current study does not provide evidence to support this hypothesis, further testing should be completed. Also, this relationship does not try to account for the phenomenon of nostalgia itself, but to propose a model for future testing on social connectedness, music, adolescence, and nostalgia.

FUTURE DIRECTIONS AND POSSIBLE APPLICATIONS

In order to better understand relationships between music and nostalgia, more research needs to be conducted. Person-level variables that predict nostalgia—as indicated by Barrett *et al.* (in press)—should be incorporated in future research designs. Similarly, Barrett and colleagues suggested that nostalgia-proneness may enhance the effects of context-level variables. A possible study may involve looking at listening habits of nostalgia-prone individuals to see if nostalgia-inducing songs are more frequent than less nostalgia-prone individuals. Similarly, the context-level variables proposed by Barrett and colleagues should be examined extensively with the dependent measures focusing on nostalgia. Last, experimental testing should continue to explore causal relationships between music, social bonding and nostalgia; emphasis should be placed on the life epoch of adolescence.

To explore further functions of music-induced nostalgia, Zhou *et al.* (2008) proposed that nostalgia can counteract feelings of loneliness. During bouts of loneliness, playing nostalgia-

inducing music may lessen lonely feelings. The same procedure can be used in the case of mortality salience. Routledge *et al.* (2006) suggested that nostalgia may restore meaning to a person's life when faced with ideas of death. Music that evokes nostalgia may also increase reports of personal meaning. Research conducted by the Rutgers group focused on possible marketing strategies available by inducing nostalgia. Music-induced nostalgia may assist marketers in creating associations between consumers, their meaningful past, and products. Also, music induced by nostalgia can be used to target specific age groups for marketing purposes (Holbrook & Schindler, 1989).

Nostalgia induced by music can also be used clinically and therapeutically. Batcho notes, "[Findings that suggest nostalgia influences social bonding behaviors] encourage further research into the possible therapeutic value of nostalgic reminiscence" (2007, pg. 377). Music may be a trigger for nostalgia that can be used therapeutically. Aside from the coping strategies and restorative functions as proposed by Routledge *et al.* (2006) and Zhou *et al.* (2008), those who have difficulty feeling supported by their social group may find amelioration from nostalgic feelings. Social anxiety has been shown to decrease perceptions of social support (Caldwell & Reinhart, 1988). If nostalgia is induced by music, those who suffer from social anxiety may be able to augment their awareness of close social relationships by listening to songs that evoke nostalgia. Individuals with Alzheimer's disease often participate in interventions with a spouse designed to increase satisfaction with their social support (Roth *et al.*, 2005). During interventions or times when the patient and spouse are separated, music-induced nostalgia may increase satisfaction with social bonds. However, therapeutic applications can only be substantiated by further empirical investigation.

CONCLUSION

Based on a literature review of nostalgia, its functions, and appearance in music, a study was conducted to see if nostalgia induced by music can increase perceptions of social bonds in listeners. First, a survey was given to participants who provided their age and then indicated songs that made them feel nostalgic. Based on the responses, an age range for potentially-nostalgia inducing songs was determined. This age range was used in an experiment where participants either listened to a song they cited to potentially evoke nostalgia or a control song. Afterwards, nostalgia, familiarity, and reports on satisfaction with social bonds were measured. Results from the present study do not support the hypothesis that nostalgia evoked by music increases reports of satisfaction with a person's social bonds. Further studies need to be conducted to test the hypothesis. If results consistent with the hypothesis are found, future research may examine the phenomena that arise from listening to nostalgia-inducing music. Applications for marketing and clinical settings—though speculative—are suggested.

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APPENDIX I

The Multidimensional Scale of Perceived Social Support (Zimet *et al.*, 1988).

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree
Circle the "2" if you Strongly Disagree
Circle the "3" if you Mildly Disagree
Circle the "4" if you are Neutral
Circle the "5" if you Mildly Agree
Circle the "6" if you Strongly Agree
Circle the "7" if you Very Strongly Agree

There is a special person who is around when I am in need.	1	2	3	4	5	6	7
There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
My family really tries to help me.	1	2	3	4	5	6	7
I get the emotional help and support I need from my family.	1	2	3	4	5	6	7
I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
My friends really try to help me.	1	2	3	4	5	6	7
I can count on my friends when things go wrong.	1	2	3	4	5	6	7
I can talk about my problems with my family.	1	2	3	4	5	6	7
I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
My family is willing to help me make decisions.	1	2	3	4	5	6	7
I can talk about my problems with my friends.	1	2	3	4	5	6	7